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MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER LEE, JINHEE J	
			ART UNIT 2831	PAPER NUMBER

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/790,583

Applicant(s)

WIEKHORST ET AL.

Examiner

Jinhee J. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 77-125 is/are pending in the application.
- 4a) Of the above claim(s) 121 and 124 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 77-120, 122, 123, 125 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0705.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Not approved drawing.

DETAILED ACTION

Election/Restrictions

1. Claims 121 and 124 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper number 0205.

Applicant has stated in remarks dated 7/20/05 that "claims 121 and 124 are not readable upon the elected species".

Drawings

2. The amended drawing filed 7/20/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Separator 90 on replacement figure 6 is new matter and was not previously disclosed in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is required to cancel the new matter.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after

the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

4. The amendment filed 7/20/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

At page 12 of the amended paragraph [0059], the phrase "separated by a separator 90", discloses new matter because, the original disclosure did not describe that the separator separates the twisted pairs. Furthermore, this added phrase is confusing. The four twisted pairs are supposed to be twisted around each other and separated by a separator. How can a twisted pair twist around another when it is separated?.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

5. Claims 120, 122 and 123 are objected to because of the following informalities:

Claim 120 line 2, claim 122 line 1 and claim 123 line 1, the phrase "of less than" has a grammatical error. Examiner suggests "less than" instead to correct the grammatical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 89-103, 114, 117 and 119 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added limitation of "a separator positioned within the jacket for separating the twisted pairs of data transmission conductors" is new matter not previously disclosed in the original specification. Applicant is required to cancel the new matter.

9. Claims 89-103, 114, 117 and 119 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 89 line 9-11, claim 100 line 12-13 and claim 114 line 12-13, recites the limitation "a separator positioned within the jacket for separating the twisted pairs of (data transmission) conductors". This is confusing. The twisted pairs are supposed to be twisted around each other and separated by a separator. How can a twisted pair twist around another when it is separated?. Clarify.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 77-80, 83, 86-88, 104 and 111 are rejected under 35 U.S.C. 102(b) as being anticipated by Jachimowicz et al. (3894172).

Re claim 77, Jachimowicz et al. discloses a cable having a central axis, the cable comprising:

a plurality of twisted pairs of conductors (10, 12, 14, 18 for example); and
a jacket (20, jacket of foamed material for example) defining a central passage in which the twisted pairs of conductors are located, the central passage including air. the air in the central passage occupying a volume between the plurality of twisted pairs of conductors, the jacket including legs (unnumbered, portion of channel on 20) that project inwardly toward the central axis of the cable, the jacket defining channels (unnumbered channels on 20) located between the legs, the channels including air, the air in the channels being in fluid communication with the air in the central passage that occupies the volume between the plurality of twisted pairs of conductors, each of the channels having two opposing sides (unnumbered at each side of the channel on 20). a side (unnumbered at top of the channel on 20) interconnecting the two opposing sides and an open side (unnumbered) that faces inwardly toward the central axis, the

channels having lengths that run along a length of the jacket, and the number of channels being greater than the number of twisted pairs of conductors (see figure 1).

Re claim 78, Jachimowicz et al. discloses a cable, wherein the plurality of twisted pairs of conductors includes 4 twisted pairs of conductors (see figure 1).

Re claim 79, Jachimowicz et al. discloses a cable, wherein each of the conductors is covered by a separate insulation layer (see column 2 line 28 according to the number in the middle).

Re claim 80, Jachimowicz et al. discloses a cable, wherein the twisted pairs of conductors generally do not occupy the channels (see figure 1).

Re claim 83, Jachimowicz et al. discloses a cable, wherein the jacket comprises a plastic material (foamed polyethylene, see column 2 lines 49-50).

Re claim 86, Jachimowicz et al. discloses a cable comprising:
a plurality of twisted pairs of conductors (10, 12, 14, 18 for example); and
a jacket (20) within which the twisted pairs of conductors are located, the jacket defining interior air channels (unnumbered), the channels defining legs thereinbetween that project inwardly toward a central axis of the jacket, the legs being attached to the jacket at outer ends and the legs having free, unattached inner ends, each channel having two opposing sides, a side interconnecting the two opposing sides and an open side that faces inwardly toward a the central axis of the jacket, the channels having lengths that run along a length of the jacket, and the number of channels being greater than the number of twisted pairs of conductors (see figure 1).

Re claim 87, Jachimowicz et al. discloses a cable, wherein the twisted pairs of conductors include 4 twisted pairs of conductors (see figure 1).

Re claim 88, Jachimowicz et al. discloses a cable, wherein each of the conductors is covered by a separate insulation layer (see column 2 line 28).

Re claim 104, Jachimowicz et al. discloses a data transmission cable comprising:

four twisted pairs of data transmission conductors (10, 12, 14, 18 for example), each of the data transmission conductors being covered by a separate insulation layer (see column 2 line 28), the four twisted pairs of data transmission conductors being twisted around each other to define a core (see column 2 lines 41-43); and

a jacket (20 with 24, 26) defining an interior air passage that extends along a length of the jacket, the interior air passage having a central region including air and a peripheral region including air, the core being located within the central region of the interior air passage with the core being exposed to the air in the central region, the peripheral region of the interior air passage including a plurality of channels that are circumferentially spaced relative to one another about the core, the channels including air, the air in the channels being in fluid communication with the air in the central region to which the core is exposed, the jacket including an inner portion (20) at which the channels are defined and an outer portion (26) that surrounds the inner portion, and the number of channels being greater than the number of twisted pairs of insulated data transmission conductors; and a separator (24) positioned within the jacket.

Re claim 111, Jachimowicz et al. discloses a cable, wherein the jacket comprises a plastic material (see column 2 line 49).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 81, 82, 84, 85, 105-110, 112, 113, 115, 116, 118, 120, 122, 123 and 125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jachimowicz et al.

Re claims 81 and 109, the device of Jachimowicz et al. discloses the claimed invention except, wherein the channels each have a cross-sectional area of at least .00002 square inches. It would have been an obvious matter of design choice to have the channels each have a cross-sectional area of at least .00002 square inches in order to provide differently proportioned insulation, since such a modification would have

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involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claims 82 and 110, the device of Jachimowicz et al. discloses the claimed invention except, wherein the jacket has a thickness less than about .030 inches. It would have been an obvious matter of design choice to have the jacket with a thickness less than about .030 inches in order to provide differently proportioned insulation, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claims 84 and 112, the device of Jachimowicz et al. discloses the claimed invention except that the plastic material includes a fluoropolymer. Examiner takes official notice that the plastic material including a fluoropolymer is well known material for use in the electrical applications. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plastic material that includes a fluoropolymer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Re claims 85 and 113, the device of Jachimowicz et al. discloses the claimed invention except that the plastic material includes polyvinyl chloride. Examiner takes

official notice that the plastic material including polyvinyl chloride is well known material for use in the electrical applications. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plastic material that includes polyvinyl chloride, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Re claim 105, the cable of Jachimowicz et al. discloses the claimed invention except, wherein each of the channels has a cross-sectional area less than about 30 percent of a total cross-sectional area of the jacket. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each of the channels with a cross-sectional area less than about 30 percent of a total cross-sectional area of the jacket in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 106, the cable of Jachimowicz et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 2% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 2% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 107, the cable of Jachimowicz et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 5% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 5% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 108, the cable of Jachimowicz et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 10% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 10% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claims 115, 116 and 118, Jachimowicz et al. substantially discloses a cable as set forth in claims 77, 86 and 104 respectively above except wherein the channels are generally rectangular in cross-sectional shape. However, it would have been obvious to modify the device of Jachimowicz et al. with different shapes of

configurations since Applicants have presented no explanation that this particular configuration of “generally rectangular in cross-sectional shape” is significant or is anything more than one of numerous configurations. A person having ordinary skill in the art would have found it obvious to modify the channel of Jachimowicz et al. to the claimed configuration of generally rectangular in cross-sectional shape for the purpose of providing deeper channels. A change in shape or configuration is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 149 USPQ 47 (CCPA 1976).

Re claim 120, the cable of Jachimowicz et al. discloses the claimed invention except wherein the plurality of insulated conductors has an overall dielectric constant less than 2.0. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plurality of insulated conductors has an overall dielectric constant of less than 2.0, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 122, the cable of Jachimowicz et al. discloses the claimed invention except wherein the insulated conductor has a diameter less than about .042 inches. It would have been an obvious matter of design choice to have the diameter less than about .042 inches in order to provide optimum size, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of

ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 123, the cable of Jachimowicz et al. discloses the claimed invention except wherein the separate insulation layer has a thickness less than about .01 inches. It would have been an obvious matter of design choice to have the separate insulation layer with a thickness less than about .01 inches in order to provide optimum size, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 125, Jachimowicz et al. substantially discloses a cable as set forth in claim 77 above. Although Jachimowicz et al. does not explicitly disclose wherein the cable complies with a test selected from the group consisting of the National Fire Prevention Association 255, The National Fire Prevention Association 259, The National Fire prevention Association 262 or combinations thereof. However, it would have been obvious to those skilled in the art at the time the invention was made to form the cable that complies with a test selected from the group consisting of the National Fire Prevention Association 255, The National Fire Prevention Association 259, The National Fire prevention Association 262 or combinations thereof in order to provide improved flame resistancy that meets industry standards. This would assure consumers that the cable meets required conventional safety and quality requirements.

15. Claims 89-103, 114, 117 and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jachimowicz et al. in view of Boucino et al. (US005969295A).

Re claim 89, Jachimowicz et al. substantially discloses a data transmission cable comprising:

a plurality of twisted pair of data transmission conductors (10, 12 14, 18); and
a jacket (20) within which the plurality of twisted pairs of data transmission conductors is located, the jacket defining interior channels (unnumbered) that are circumferentially spaced relative to one another about the plurality of twisted pairs of data transmission conductors, the channels defining legs thereinbetween that project inwardly toward a central axis of the jacket, the legs being attached to the jacket at outer ends and the legs having free, unattached inner ends, the channels each having an open side (unnumbered) that faces inwardly toward the central axis of the jacket, the twisted pairs of data transmission conductors generally not occupying the channels. Jachimowicz et al. does not explicitly disclose a separator positioned within the jacket for separating the twisted pairs of data transmission conductors. However, Boucino et al. teaches of a separator (spacer 14) positioned within a jacket for separating the twisted pairs of data transmission conductors (see figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the separator positioned within a jacket for separating the twisted pairs of data transmission conductors of Boucino et al. with the device of Jachimowicz et al. in order to provide reduced crosstalk.

Re claims 90 and 101, note that the device of Jachimowicz et al. teaches, wherein the plurality of twisted pairs of conductors includes 4 twisted pairs of conductors (see figure 1).

Re claims 91 and 102, note that the device of Jachimowicz et al. teaches, wherein each of the conductors is covered by a separate insulation layer (column 2 line 28).

Re claim 92, note that Jachimowicz et al. teaches, wherein number of channels (unnumbered) is greater than the number of twisted pairs (four) of data transmission conductors (see figure 1).

Re claims 93, 117 and 119, Jachimowicz et al. modified by Boucino et al. substantially discloses a cable as set forth in claim 89, 100 and 114 respectively above except wherein the channels are generally rectangular in cross-sectional shape. However, it would have been obvious to modify the device of Jachimowicz et al. with different shapes of configurations since Applicants have presented no explanation that this particular configuration of "generally rectangular in cross-sectional shape" is significant or is anything more than one of numerous configurations. A person having ordinary skill in the art would have found it obvious to modify the channel of Jachimowicz et al. to the claimed configuration of generally rectangular in cross-sectional shape for the purpose of providing deeper channels. A change in shape or configuration is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 149 USPQ 47 (CCPA 1976).

Re claim 94, the cable of Jachimowicz et al. as modified by teachings of Boucino et al. discloses the claimed invention except, wherein each of the channels has a cross-sectional area less than about 30 percent of a total cross-sectional area of the jacket. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each of the channels with a cross-sectional area less than about 30 percent of a total cross-sectional area of the jacket in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 95, note that Jachimowicz et al. discloses, wherein the cable includes an inner portion (unnumbered inner portion of 20) surrounding the plurality of data transmission conductors and an outer portion (unnumbered outer portion of 20) surrounding the inner portion, the inner portion including the channels such that a composite density of the inner portion is less than a composite density of the outer portion (see figure 1).

Re claim 96, the cable of Jachimowicz et al. as modified by teachings of Boucino et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 2% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 2% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the

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optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 97, the cable of Jachimowicz et al. as modified by teachings of Boucino et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 5% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 5% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claim 98, the cable of Jachimowicz et al. as modified by teachings of Boucino et al. discloses the claimed invention except wherein a signal speed at the inner portion is at least 10% greater than a signal speed at the outer portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the signal speed at the inner portion at least 10% greater than a signal speed at the outer portion in order to optimize insulation, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382.

Re claims 99 and 103, the cable of Jachimowicz et al. as modified by teachings of Boucino et al. discloses the claimed invention except wherein the plurality of twisted

pairs of data transmission conductors are twisted around each other to define a core having diameter less than about .25 inches. It would have been an obvious matter of design choice to use the plurality of twisted pairs of data transmission conductors that are twisted around each other to define a core having diameter less than about .25 inches. in order to provide a small cable, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 100, Jachimowicz et al. substantially discloses a data transmission cable comprising:

a plurality of twisted pairs of data transmission conductors (10, 12, 14, 18); and
a jacket (20) defining an interior passage that extends along a length of the jacket, the interior passage including a central region including air and a peripheral region, the plurality of twisted pairs of data transmission conductors being positioned within the central region, the air in the central region occupying a volume between the plurality of twisted pairs of conductors, the peripheral region of the interior passage including a plurality of channels (unnumbered) that are circumferentially spaced relative to one another about the central region of the interior passage, the channels including air, the air in the channels being in fluid communication with the air in the volume of the central region between the twisted pairs of conductors, the number of channels being greater than the number of twisted pairs of conductors. Jachimowicz et al. does not

explicitly disclose a separator positioned within the jacket for separating the twisted pairs of data transmission conductors. However, Boucino et al. teaches of a separator (spacer 14) positioned within a jacket for separating the twisted pairs of data transmission conductors (see figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the separator positioned within a jacket for separating the twisted pairs of data transmission conductors of Boucino et al. with the device of Jachimowicz et al. in order to provide reduced crosstalk.

Re claim 114, Jachimowicz et al. substantially discloses a data transmission cable comprising:

a plurality of twisted pair of data transmission conductors (10, 12 14, 18); and
a jacket (20) defining a single passage (unnumbered) with a central region (unnumbered) in fluid communication with a peripheral region, the plurality of twisted pairs of data transmission conductors being positioned within the central region, the jacket including an inner portion (unnumbered) and an outer portion (unnumbered), the inner portion of the jacket including a plurality of projections (unnumbered) that project inwardly from the outer portion of the jacket, the projections having inner unattached ends that define an outer boundary of the central region of the passage, the jacket defining air channels (unnumbered) between the projections, the air channels each being visible when the data transmission cable is viewed in transverse cross-section, the air channels forming the peripheral region of the passage, the number of air channels being greater than the number of twisted pairs of conductors. Jachimowicz et

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al. does not explicitly disclose a separator positioned within the jacket for separating the twisted pairs of conductors. However, Boucino et al. teaches of a separator (spacer 14) positioned within a jacket for separating the twisted pairs of conductors (see figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the separator positioned within a jacket for separating the twisted pairs of conductors of Boucino et al. with the device of Jachimowicz et al. in order to provide reduced crosstalk.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

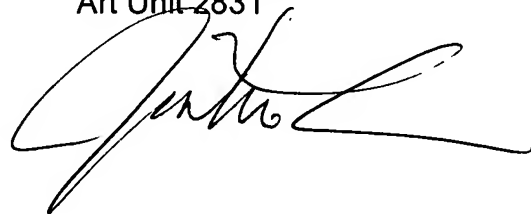
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee
Patent Examiner
Art Unit 2831

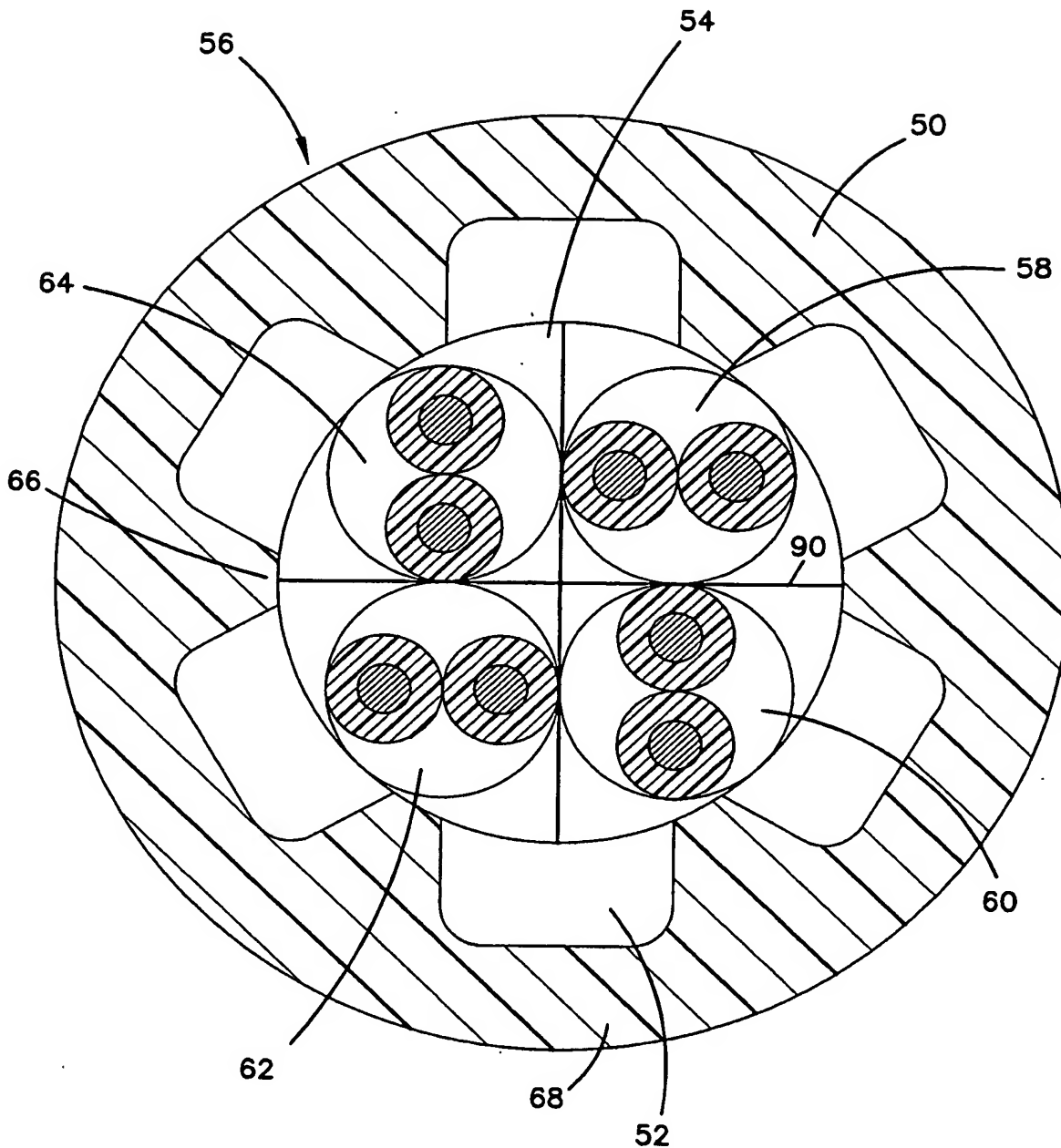
A handwritten signature in black ink, appearing to read 'Jinhee J. Lee', written over the printed name and title.

jjl



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Reply to Office Action of April 5, 2005
Replacement Sheet for Fig. 6

FIG. 6



Not Approved 9/22/05

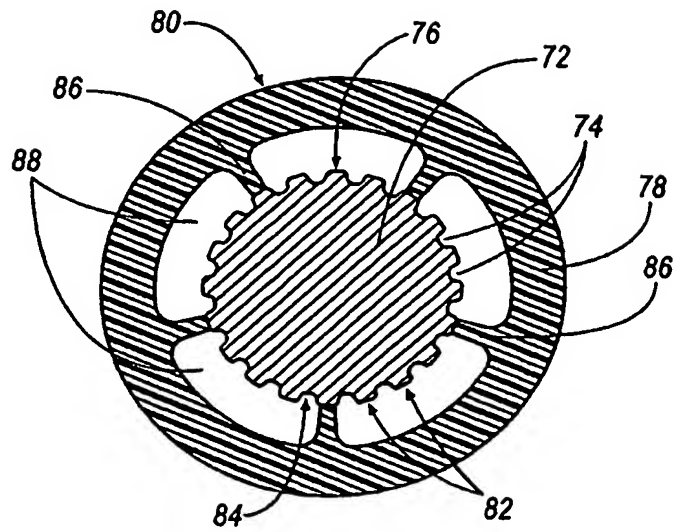


FIG. 7

Not Approved *[Signature]* 9/24/05